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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,160	08/27/2003	Douglas Gene Keithley	MP0976(13036/17	7056
60537 7590 04/16/2008 BRINKS HOFER GILSON & LIONE/MARVELL P.O. BOX 10395 CHICAGO, IL 60610				
EXAMINER PHAM, THIERRY L				
ART UNIT		PAPER NUMBER		
2625				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/650,160

**Applicant(s)**

KEITHLEY, DOUGLAS GENE

**Examiner**

THIERRY L. PHAM

**Art Unit**

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date 2/13/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

- This action is responsive to the following communication: RCE filed on 2/13/08.
- Claims 1-37 are currently pending.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/13/08 has been entered.

#### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 2/13/08 was filed after the mailing date of the final rejection on 12/11/07. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa (JP 05167850A), and in view of Matsumoto (US 633998).

Regarding claim 1, Oikawa discloses an apparatus (optical printer, abstract and par. 8-12) comprising:

- a first processor (pattern matching circuit 1, abstract and par. 2-5), the first processor adapted to:

- identify a grid of pixels having a predetermined pattern (pattern identification, par. 3-7) of pixel values;

- obtain a predetermined pcode (pulse width modulating circuit 2, abstract and par. 2-5) grid from a memory, the predetermined pcode grid corresponding to the identified grid of pixels; and

Oikawa fails to teach and/or suggest the predetermined pattern having an undesirable toner placement and to send alternate pattern and/or substitute pattern to controller circuit for printing in place of the grid of pixels if the grid of pixels having predetermined pattern is identified.

Matsumoto, in the same field of endeavor for image forming apparatus, teaches a well-known example of the predetermined pattern having an undesirable toner placement (discontinuous undesirable line pattern, fig. 4a, col. 8, lines 49-62) and to send the predetermined pattern (sending substitute pattern via using substitution process 106, fig. 4b-4f, col. 1, lines 60 to col. 2, lines 7 and col. 5, lines 35-52) to controller circuit for printing in place (using the substitute pattern instead of the undesirable pattern for printing, fig. 4a-4f) of the grid of pixels if the grid of pixels (pixels, fig. 4a-4f) having predetermined pattern is identified (via using pattern matching unit 104, fig. 1a-1b, col. 5, lines 35-52).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify image forming apparatus and predetermined pattern of Oikawa to include a detection unit for detecting predetermined pattern having undesirable toner placement and to substitute the undesirable pattern with a different pattern as taught by Matsumoto so that discontinuous image of faint character can be reproduced smoothly and to improve output image quality (col. 3, lines 32-57 of Matsumoto).

Therefore, it would have been obvious to combine Oikawa with Matsumoto to obtain the invention as specified in claim 1.

Regarding claim 2, Oikawa further discloses the apparatus recited in claim 1 wherein said processor is a pcode processor (pulse width modulating circuit 2, abstract and par. 2-5).

Regarding claim 3, Oikawa further discloses the apparatus recited in claim 2 further comprising a second processor (pulse density modulation, par. 28) adapted to format print data to pixel data, the pixel data including pixel values.

Regarding claim 4, Oikawa further discloses the apparatus recited in claim 1 wherein the first processor is adapted to format (par. 28) print data to pixel data, the pixel data including pixel values.

Regarding claim 5, Oikawa further discloses the apparatus recited in claim 1 wherein the grid of pixels is a six-pixel by six-pixel grid (par. 8).

Regarding claim 6, Oikawa further discloses the apparatus recited in claim 1 wherein the memory is a register internal (par. 10) to the first processor.

Regarding claim 7, Oikawa further discloses the apparatus recited in claim 1 wherein the memory is non-volatile but re-writable memory (storage memory device within optical printer including RAM, DRAM, EEPROM, hard drive, and etc).

Regarding claim 8, Oikawa further discloses the apparatus recited in claim 1 wherein the memory is external to the first processor (e.g. host computer, par. 15).

Regarding claim 9, Oikawa further discloses the apparatus recited in claim 1 wherein the predetermined pattern of pixel values and its corresponding pcode grid applies to a first color and a second predetermined pattern of pixel values and its corresponding pcode grid applies to a second color (par. 16-18).

Regarding claim 10, Oikawa further discloses the apparatus recited in claim 1 wherein the apparatus is selected from a group consisting of a printer (optical printer, par. 3-7), a copier, and a multifunction appliance.

Regarding claims 11-17: Claims 11-17 are the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claims 1, 3, 5-9 (respectively); therefore, claims 11-17 are rejected for the same rejection rationale/basis as described in claims 1, 3, 5-9 (respectively) above.

Regarding claims 18-37 recite limitations that are similar and in the same scope of invention as to those in claims 1-17 above; therefore, claims 18-37 are rejected for the same rejection rationale/basis as described in claims 1-17.

### ***Response to Arguments***

Applicant's arguments, see pages 7-11, filed 2/13/08, with respect to the rejection(s) of claim(s) 1-37 under USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THIERRY L. PHAM whose telephone number is (571)272-7439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thierry L Pham/

Examiner of Art Unit 2625

/Edward L. Coles/

Supervisory Patent Examiner, Art Unit 2625